



# SPARK GAP

Vol. 39, Issue 3, March 2022 *MARC - Serving Central Indiana Communities*

## *ON OUR MARC:*

The March MARC monthly meeting is Saturday 2/19 starting at 8 am at New Hope Church, 5307 W. Fairview Dr., Greenwood. We are meeting **upstairs**, in the Youth Room on the upper level. There are 2 doors. One is West facing and leads directly to the lower level. If you enter this door, you will need to climb the stairs directly to the right inside the lower level doors. The room is at the top of the stairs on the left. If you park up the hill at the South side of the building, there is a door to the upper level (with a wheelchair ramp as well). If you enter these doors, turn left just past the Welcome center. The meeting is all the way at the end of the hall on the right. I will have signs up. There will be coffee and donuts provided. Please plan to attend.

Joe Villanueva, the Johnson County Prosecutor is running for re-election this year. The Primary is in May. He is very supportive of our club and allows us use of the Radio Room in his building. He plans to attend our meeting, introduce himself, and address the group for about 10 minutes.

See you at the meeting Saturday.

73,

*Tim*

*WC9G*





## ***MARCH 2022 BIRTHDAYS***

***N9LC – Steve Broan  
W0LPQ – William Lambing  
KC9VGQ – Chris Mazzaella  
W9NMM – Noel Mortier  
KC9WLR – Michael Rose  
KB9LOT – David Daily  
K9FRO – Jeffery Erdman  
KD9TIO – Gary Emmons***

## **2022 Storm Spotter Training Information**

*from Bob Jones – KC9NJM*

We have been informed by Johnson Co. EMA Director, Stephanie Sighting, that there will not be an in-person Storm Spotter Training Class offered in the county this spring, due to Covid considerations. This year, the NWS Indy staff of meteorologists will be doing a mix of in-person and virtual training sessions. A list of those that have been scheduled so far can be viewed at the NWS website at [https://www.weather.gov/ind/spotter\\_talks](https://www.weather.gov/ind/spotter_talks). We are encouraged to choose either a convenient in-person class or one of the virtual sessions to fulfill this year's training. Information about signing up for a virtual session can be found by clicking the link of the date/time that interests you. Sign-up for an in-person session is not required. There is no charge for either type of session.

### Virtual sessions:

Friday, Mar. 4 7 pm  
Monday, Mar. 21 6 pm  
Weds., Mar. 30 6 pm  
Sat., Apr. 9 9 am

### In-person sessions:

Monday, Mar. 14 6 pm Bartholomew Co. (Columbus Airport)  
Weds., Mar. 16 6 pm Marion Co. (Shadeland Ave.)

We hope that all of the MARC members will participate in a training session this spring, as we prepare for any upcoming severe weather that comes our way. We want to make sure that we are ready to fulfill our Skywarn roles for the people of Johnson Co. and Central Indiana.



# 2022 INDIANA COMMUNICATIONS UNIT

## FIELD DAY APRIL 14, 2022



## STATEWIDE PUBLIC SAFETY & AUXCOMM EVENT

Join us April 14, from 0900 to 1400 for Communications & CMD vehicle testing all while integrating local Auxiliary Comm. members at three regional locations. This event is intended for Comm. unit and AuxC personnel. Bring your team and equipment - all comm. platforms to be tested.



Scan  
to  
Register



North - Districts: 1, 2, 3, 4

Plymouth Wesleyan Church | 11203 Michigan Rd.  
Plymouth, IN 46563



Central - Districts: 5, 6, 7

The Creek Church, Indianapolis | 6430 Franklin Rd.  
Indianapolis, IN 46259



South - District 8, 9, 10

Lawrence Co. Fairgrounds | 11265 US-50  
Bedford, IN 47421



Hosted by: Integrated Public Safety Commission

Questions:

Registration Link: <https://forms.office.com/g/SigywFXVHj>

Tyler Clements, Director of Emergency Response



317-685-4377



[tyclements@ipsc.in.gov](mailto:tyclements@ipsc.in.gov)



## **Volunteer Monitor Program Cautions against Operating Beyond License Privileges**

<http://www.arrl.org/.../volunteer-monitor-program...>

Many of the Advisory Notices sent out each month by the ARRL Volunteer Monitor Program go to stations heard operating outside the operator's license privileges.

Typical cases often involve operators holding Technician- or General-class amateur licenses being heard on a frequency or band not permitted by their license privileges. Most recent incidents have frequently entailed FT8 digital mode operation by Technician licensees on 20 and 40 meters. Technician licensees do not have any operating privileges on 20 meters, let alone digital privileges, and FT8 is a digital protocol.

Technicians (and Novices) may operate CW between 21.025 and 21.200 MHz on 15 meters, from 7.025 and 7.125 MHz on 40 meters, and from 3.525 to 3.600 MHz on 80 meters, but they do not have any digital (data) mode privileges on these bands.

ARRL Volunteer Monitor Program Administrator Riley Hollingsworth, K4ZDH, said licensees who need a refresher course regarding their operating privileges may refer to Section 97.301 of the rules. ARRL also has a convenient chart on its website that details privileges available to all license classes, from Novice to Amateur Extra.

As monthly Volunteer Monitor reports indicate, some General-class operators have lost their way on some bands too, and Advisory Notices have gone out to those operating outside of the General-class phone subbands. For example, on 20 meters, Generals may operate phone from 14.225 to 14.350 MHz, but occasionally, General-class operators are heard outside of that subband. On 40 meters, the phone and image subband open to General licensees is 7.175 to 7.300 MHz. Of course, Technician- and General-class licensees may operate CW on any subband on which they have operating privileges, although operation within the CW subbands is preferred by band plan.

On 10 meters, Technicians have RTTY and data privileges — including FT8 — from 28.000 to 28.300 MHz, and SSB phone privileges from 28.300 to 28.500 MHz, and may operate on CW over the entire 28.0000 – 28.500 MHz segment. Technicians may enjoy all operating privileges at 50 MHz and above.

The ARRL Volunteer Monitor program is a formal agreement between the FCC and ARRL. Volunteers trained and vetted by ARRL monitor the airwaves and report evidence that may be used to correct errant operation or to recognize exemplary on-air operation.

ARRL Indiana Section

Section Manager: Jimmy L Merry Jr, KC9RPX  
[kc9rpx@arrl.org](mailto:kc9rpx@arrl.org)



## **Don't Buy It, Build It!**

### **W9HR's 1:1 Current Balun Build**

A 1:1 current balun is a good way to virtually eliminate unwanted common mode current from traveling down the skin of your coax and possibly into your shack. There are many commercially available 1:1 current baluns on the market at various price and quality points.

If you have some rudimentary soldering and assembly skills, you can have the satisfaction of building your own – as good or better than what you might buy.



I built mine with readily available parts from Amazon and eBay. An electrical junction box can be used to house the components. You'll also need a couple of SO-239 connectors, a couple of spools of FEP high temperature #18AWG wire, preferably in contrasting colors, a 240-31 or 240-43 toroid, four cable ties, eight small bolts/nuts to secure the SO-239s and four wire nuts.

For tools you will need a good soldering iron, rosin core solder, a wire stripper/cutter, a drill with step bit/twist bit and a screw driver to secure the box cover.

Start by winding a pair of contrasting colored wires onto one side of the toroid. I used twelve turns. Use cable ties to secure the ends. Then, wind the other side. There are several good YouTube videos on exactly how to do this.

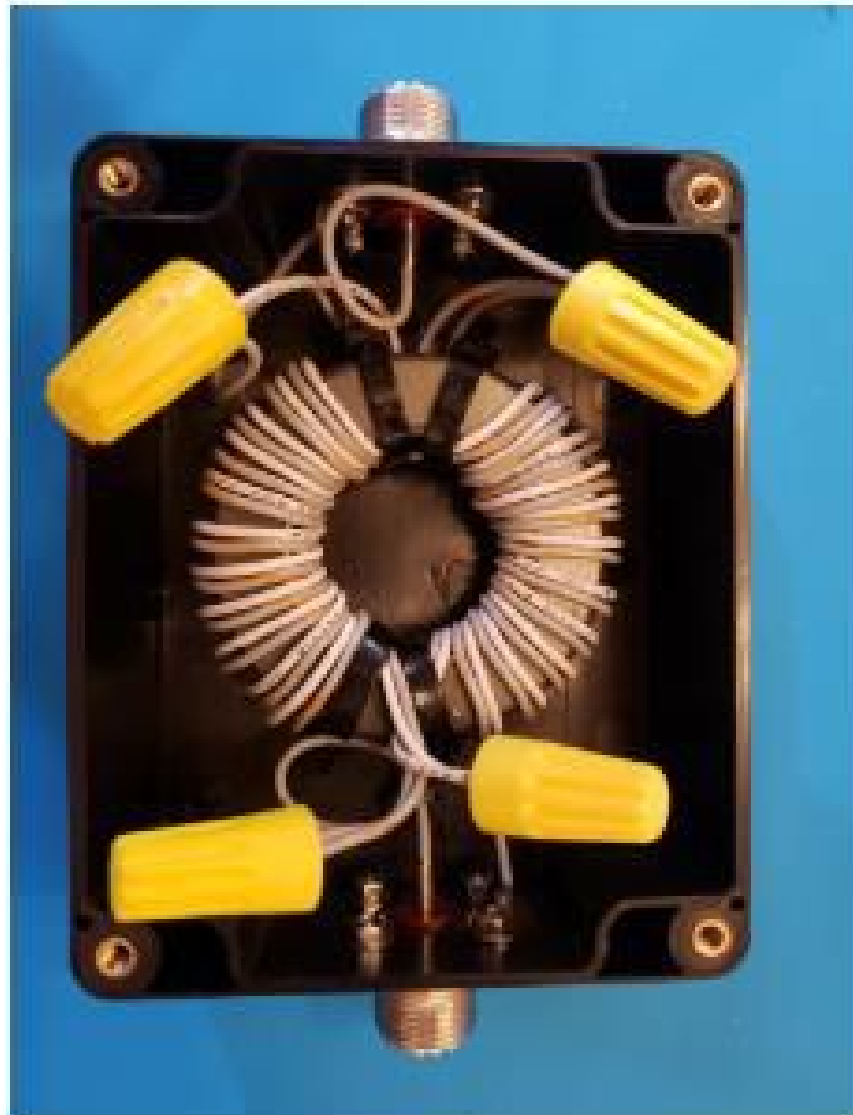


Next, strip and solder four pigtails for connection points between the toroid wires and the SO-239s.



You are now ready for assembly. Drill holes for and bolt in the SO-239s. Strip and solder the ends of the toroid wires, like to like. That is, each color should be soldered together – gray to gray, white to white in my case. You should have four toroid connection points.

Now, drop the toroid into the box and attach and solder your SO-239 connecting pigtails to the four ends of the toroid wires – ground through to ground, center conductor through to center conductor. It's critical you get these connections right.



Attach four wire nuts to each connector for insulation. Use a multimeter to test for continuity – again ground to ground and center conductor to center conductor. Close up the box and screw down the cover. You're ready to go.

Attach the balun in-line with a short coax jumper near the antenna attach point. Voila, you should now have a functioning balun that will keep that nasty common mode current out of your shack.

If you have questions or comments, feel free to email me at [W9HR@outlook.com](mailto:W9HR@outlook.com).

-Doug W9HR

# **Annual Armed Forces Day Cross-Band Exercise Set for May 14**

The 2022 running of the Armed Forces Day (AFD) Cross-Band exercise will be held on May 14, 1300 – 2200 UTC. A complete list of participating stations, modes, frequencies, times, and other details will be announced on April 1. The event is open to all radio amateurs. Armed Forces Day is May 21, but the AFD Cross-band military-amateur radio event traditionally takes place 1 week earlier, in order to avoid conflicting with Dayton Hamvention®. During the exercise, radio amateurs listen for stations on military operating frequencies and transmit on frequencies in adjacent amateur bands.

Military and amateur stations have taken part in this event for more than 50 years. It's an exercise scenario, designed to include ham radio and government radio operators alike.

Per previous announcements: “The AFD Cross-band Test is a unique opportunity to test two-way communications between military communicators and radio stations in the Amateur Radio Service, as authorized in 47 CFR 97.111. These tests provide opportunities and challenges for radio operators to demonstrate individual technical skills in a tightly controlled exercise scenario that does not impact any public or private communications.”

Military stations in various locations will transmit on selected military frequencies and announce the specific ham band frequencies they are monitoring.

An AFD message will be transmitted utilizing the Military Standard (MIL-STD) serial PSK waveform (M110), followed by MIL-STD Wide Shift FSK (850 Hz RTTY), as described in MIL-STD 188-110A/B. The AFD message will also be sent in CW and RTTY.

Full details will be released on April 1.

..... *ARRL News March 2022*





37<sup>th</sup> Annual



# Columbus HAMFEST

Sponsored by Columbus Amateur Radio Club

<http://www.carcnet.net>

Facebook: Columbus Amateur Radio Club Hamfest

All-Indoor  
Flea Market

Saturday, April 2, 2022  
8:00 a.m. to Noon

Food &  
Drinks  
Available

Bartholomew County Fairgrounds  
Community Building

750 W County Road 200S, Columbus, Indiana 47201

General Admission  
\$5.00 at the door

Talk-in: 146.79 MHz (-600 kHz, PL 103.5 Hz)

#### VE TESTING

9 - 11 a.m.

VE testing will be provided by  
SCICSG representing the Laurel  
VEC, which has been providing  
free VE testing  
since 1984.

Pre-Register at least 24 hours  
in advance, please, by emailing:  
Mike Tarkley W9 MDT  
[w9mdt@ar1.net](mailto:w9mdt@ar1.net)  
812-350-5175

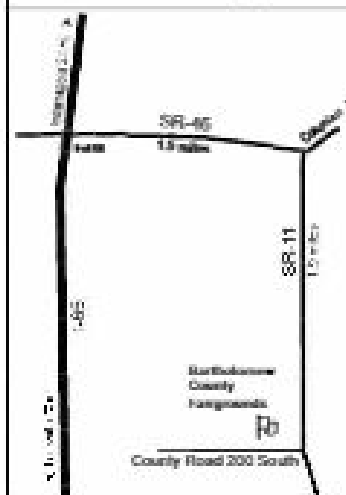
#### Hourly Door Prizes!

Grand Prize is a

**ICOM 2730A**

Dual Band Mobile

(Cash will be awarded to non-amateur winner)



Flea market space is available at a rate of \$10 for an 8 foot table.  
Rental fee includes tables.

Set-up 6 a.m. day of the hamfest

Registration will be conducted at the door or in advance.

Please enclose SASE with advance exhibitor reservations or advance general admission.  
Any advance registrations must be prepaid and postmarked by March 18, 2022  
Make checks payable to: Columbus Amateur Radio Club.

For registrations or more information, contact:

Noel Taylor, NR1JT  
2529 Sandcrest Blvd. Suite B  
Columbus, IN 47203  
[n9cjt@att.net](mailto:n9cjt@att.net)

Free  
Parking

# INDIANA HAMFESTS

**April 2, 2022**

**Columbus Hamfest**

**Bartholomew Co Fairgrounds**

**750 W 200 S Columbus, IN**

**April 16, 2022**

**Henry County Tailgate**

**8 am - 12 pm**

**W G Smith Building @ Memorial Park**

**2221 N Memorial Drive New Castle, IN**

**<http://w9ob.org>**

**\*\*\***

**May 7**

**North Central Indiana Hamfest**

**Miami Co Fairgrounds**

**1029 W 200 N**

**Peru IN**

**\*\*\***

**June 11**

**Bloomington ARC Tailgate**

**Southside Christian Church**

**500 E Empire Mill Rd Bloomington, IN**

**[www.bloomingtonradio.org](http://www.bloomingtonradio.org)**

**July 30, 2022**

**East Central Indiana Hamfest**

**8 am - 3 pm**

**Randolph County Fairgrounds**

**1885 S US 27 Winchester, IN**

**\*\*\***

**August 6, 2022**

**Elkhart East Hamfest**

**8am – 2 pm**

**21565 Executive Parkway Elkhart, IN** <https://elkharteasthamfest.com/>

**\*\*\***

**August 13, 2022**

**Hendricks Co. Tailgate**

**Avon United Methodist Church**

**6550 E US 36 Avon, IN**

**\*\*\***

**August 13, 2022**

**Auburn Hamfest**

**Auburn Cord Duesenberg Museum**

**9 am – 1 pm**

**1600 Wayne Street Auburn, IN**

**\*\*\***

**October 8, 2022**

**Hoosier Hills Hamfest**

**8 am**

**Lawrence Co Fairgrounds**

**11265 US-50 Bedford, IN**

[www.w9qyq.org](http://www.w9qyq.org)

**\*\*\***

October 15, 2022

TARS - Octoberfest

7 am - 2 pm

Lynnville Community Center

416 W ST RD 68 Lynnville, IN

October 22, 2022

Shelby Co Fairgrounds

500 Frank Street Shelbyville, IN

**Sooner or later . . .**

**every Ham will probably own at least one**

**Small size . . .  
giant performance**

**TWO MODELS AVAILABLE:  
2.5 Watt MARK II and  
4 Watt MARK IV**

**SPECIFICATIONS:**

- Range: 144-148 MHz
- 6 Channel Operation
- Individual Trimmers on all TX and RX Xtals.
- Current Drain: RX 15 mA, TX - Mark II, 500 mA, Mark IV 900 mA
- 12 KHz Ceramic Filter
- 10.7 MHz and 455 kHz IF
- Spurious and Harmonics: 50 dB below carrier
- BNC (Twist type) Antenna Connector
- .3 Microvolt Sensitivity for 20 dB Quieting
- Uses special rechargeable Ni-Cad Battery Pack
- New improved Rubber Duck included
- One pair Xtals 52/52 included
- Weight: 16 oz. (.45 Kg) inc. batteries
- Size: 6" x 1.770" x 2.440"

**ACCESSORIES AVAILABLE**  
Include LC-4 Leather Case, WC12 AC Wall Battery Charger, SC4 Desk Type Battery Charger, SM4 Speaker Mic, Touch Tone Pad, Tone Options.

**Wilson  
Hand-Held**

**NEW!**

The new arrivals to the Wilson family of quality high performing hand-held radios are the small American-made small sized MARK II and MARK IV. The ultimate hand-held for the amateur who demands quality, performance and value.

**FEATURES:**

- Lightweight and compact size — fits comfortably in the palm of your hand.
- Rugged Lexane case.
- Same dependable performance as all Wilson Hand-Helds.
- Microswitch Speaker-Mic built in.



FOR SIZE COMPARISON, THE NEW MARK IV IS ILLUSTRATED NEXT TO WILSON'S 1405SM SWITCHABLE 1 & 5 WATT RADIO.

Other Wilson units available are the VHF Models 1402SM, 2.5 watt, Model 1405SM Switchable 1 and 5 watt and 4502SM, 450 MHz, 2202SM, 220 MHz UHF units and Wilson's WE800 synthesized 2 meter portable rig.

**DON'T  
MISS OUT  
ON THE  
EXPLODING HAM  
MARKET!**

**ATTENTION AMATEUR DEALERS:**

**Wilson is accepting  
new dealers in many areas . . .  
contact us if you are interested.**

For an illustrated Amateur Products Buyers Guide, write:

**Wilson Electronics Corp.**

P.O. Box 19000 • Las Vegas, Nevada 89119 • (702) 739-1931 • TELEX 684-522

# 2022 STATEWIDE TORNADO DRILL

Working closely with the Johnson County Emergency Management Agency the annual drill was activated at 1000 Tuesday March 15<sup>th</sup>. As part of this drill local school systems activated their disaster plans and conducted their own tornado drill. This drill was part of the Indiana Severe Weather and Flood Preparedness Week so schools could coordinate with the statewide test.

Johnson County Hams were ready to be part of this exercise to check our preparedness and communication readiness when such weather event takes place in Johnson County. The net started precisely at 1000 by the net control station KC9NJM, Bob using his station at his home.

Participating stations started checking in as soon as the net control station gave the call for stations in the area that the exercise was underway.

Sometimes during the daytime hours it can be difficult for stations to check into the net due to the amateur radio operator's work schedule. In Johnson County we had a total of 17 check ins, 13 base stations and 4 mobile station that participated. We thank all hams that were part of this important exercise for this year. The net concluded at 1013 and results reported to Central Indiana SkyWarn.

This is a good time of year to prepare yourself for hazardous weather that happens every year in our state. There is time to take advantage of the NWS Storm Spotter Training listed in the Spark Gap. You should have your go kit ready just in case communication is requested by the Johnson County EMA or Central Indiana SkyWarn.

..... Bob, N9SIU







## MID-STATE AMATEUR RADIO CLUB

The Mid-State Amateur Radio Club meets the **THIRD SATURDAY** of each month  
at the New Hope Church 5307 West Fairview Road, Greenwood, IN 46143.

See our website, [www.midstatehams.org](http://www.midstatehams.org), for maps on how to get to our meeting.

Everyone is welcome; you do not have to be a *HAM* to attend our meetings or a member of the club.

### W9MID Repeater:

146.835/  
146.235 MHz  
(151.4 Hz PL Tone)

### Club Officers:

President: Tim Aldridge - WC9G  
Vice President: Rhonda Curtis - WS9H  
Secretary: Jim Adams – KB9JMU  
Treasurer: Jacki Frederick - KI6QOG  
Repeater Trustee - Chris Frederick – KQ9Y

### W9MID Repeater:

443.525/  
448.525 MHz  
(151.4 Hz PL Tone) YEASU SYSTEM FUSION (C4FM)

Weekly Net: Sunday evening 7:00 PM ARES/RACES members and ALL RADIO AMATEURS  
146.835/146.235 MHz (151.4 Hz PL Tone)

The Official Newsletter of the Mid-State Amateur Radio Club

P.O. Box 836  
Franklin, Indiana  
46131

Spark Gap Editor: Robert LaGrange N9SIU

*Please send your articles to my email: [n9siu@yahoo.com](mailto:n9siu@yahoo.com) no later than the 2nd week of the month.*



**Thanks to New Hope Church for the use of their building for meetings and testing.**